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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/878,181	06/12/2001	Ikuya Kikuchi	041514-5123	1412

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EXAMINER

BATTAGLIA, MICHAEL V

ART UNIT PAPER NUMBER

2652

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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*M.W.*

## Office Action Summary

Application No.

09/878,181

Applicant(s)

KIKUCHI ET AL.

Examiner

Michael V Battaglia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 3, 4 and 10-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 5-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

This action, dated November 22, 2004, is in response to Applicant's amendment, filed August 9, 2004. Claims 1-2 and 5-9 are pending. Claims 3-4 and 10-12 are withdrawn from further consideration.

#### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 5 and 6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 5 and 6 limit the center curvature of the convex aspherical surface shape of the first optical element to a specified range that is dependent on the volumes of the first and second optical elements. The volume of the first optical element is given as 11.5 cubic millimeters (Page 16, line 21). No volume is disclosed for the second optical element and the range of acceptable center curvature radii for the first optical element is not explicitly disclosed. One skilled in the art has no way of determining the range of acceptable center curvature radii of the first optical element because the volume of the second optical element is not provided for the elected species of Fig. 2. As such, too much is left for conjecture and undue experimentation. The examiner will use 16.5 cubic millimeters as the volume of the second optical element in the prior art rejections below because that is the volume provided for the second lens element of Fig. 4 (Page 21, line 5).

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Hang et al (hereafter Hang) (US 6,208,609).

In regard to claim 1, Hang discloses a complex objective lens (Fig. 2B, element 14) having a convex aspherical surface shape comprising: a first optical element (Fig. 2B, element 34) having a first surface (Fig. 2B, non-flat surface of element 34) including a convex aspherical surface shape (Col. 5, lines 26-30 and 55-59) and an opposite side surface (Fig. 2B, flat surface of element 34) opposing the first surface; and a second optical element (Fig. 2B, element 36) having an exit surface (Fig. 2B, non-flat surface of element 36) through which an optical beam passes and an entry surface (Fig. 2B, flat surface of element 36) opposing the exit surface, wherein the opposite side surface opposing the first surface of the first optical element and the entry surface opposing the exit surface of the second optical element are both flat and directly contacted to each other (Fig. 2B).

In regard to claim 8, Hang discloses an optical pickup device (Col. 1, lines 11-14) characterized by comprising a complex objective lens (Fig. 2B, element 14) including: a first optical element (Fig. 2B, element 34) having a first surface (Fig. 2B, non-flat surface of element 34) including a convex aspherical surface shape (Col. 5, lines 26-30 and 55-59) and an opposite side

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surface (Fig. 2B, flat surface of element 34) opposing the first surface; and a second optical element (Fig. 2B, element 36) having an exit surface (Fig. 2B, non-flat surface of element 36) through which an optical beam passes and an entry surface (Fig. 2B, flat surface of element 36) opposing the exit surface, wherein the opposite side surface opposing the first surface of the first optical element and the entry surface opposing the exit surface of the second optical element are both flat and directly contacted to each other (Fig. 2B).

In regard to claim 9, Hang discloses an optical recording/reproducing apparatus characterized by comprising an optical pickup device (Col. 1, lines 11-14) having a complex objective lens (Fig. 2B, element 14) including: a first optical element (Fig. 2B, element 34) having a first surface (Fig. 2B, non-flat surface of element 34) including a convex aspherical surface shape (Col. 5, lines 26-30 and 55-59) and an opposite side surface (Fig. 2B, flat surface of element 34) opposing the first surface; and a second optical element (Fig. 2B, element 36) having an exit surface (Fig. 2B, non-flat surface of element 36) through which an optical beam passes and an entry surface (Fig. 2B, flat surface of element 36) opposing the exit surface, wherein the opposite side surface opposing the first surface of the first optical element and the entry surface opposing the exit surface of the second optical element are both flat and directly contacted to each other (Fig. 2B).

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Ori (US 6,353,588).

In regard to claim 1, Ori discloses a complex objective lens having a convex aspherical surface shape comprising: a first optical element (Fig. 1, element L1) having a first surface including a convex aspherical surface shape (Fig. 1, element R1 and Col. 6, lines 4-7) and an opposite side surface (Fig. 1, element R2) opposing the first surface; and a second optical element

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(Fig. 1, element L2) having an exit surface (Fig. 1, element R4) through which an optical beam passes and an entry surface (Fig. 1, element R3) opposing the exit surface, wherein the opposite side surface opposing the first surface of the first optical element and the entry surface opposing the exit surface of the second optical element are both flat and directly contacted to each other (Fig. 1). It is noted that the opposite side surface opposing the first surface of the first optical element and the entry surface opposing the exit surface of the second optical element are inherently both flat at the point of contact.

In regard to claim 2, Ori discloses that the first optical element has a refractive index larger than the refractive index of the second optical element (Col. 6, Table 2).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hang in view of Kojima et al (hereafter Kojima) (US 5,986,994) and further in view of Dolgoff (US 6,310,733).

Hang discloses the complex objective lens of claim 1 and further discloses that the opposite side surface opposing to the first surface of the first optical element and the entry surface opposing to the exit surface of the second optical element are formed by being contacted to make close adherence to one another (Fig. 2B). Hang neither discloses that the first and second optical elements are made of a glass material nor that the that the opposite side surface opposing to the

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first surface of the first optical element and the entry surface opposing to the exit surface of the second optical element are formed by being abraded.

Kojima discloses an objective lens made a glass material and teaches that glass has preferable humidity resistance characteristics (Col. 5, lines 61-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the first and second optical elements of Hang to be made of a glass material as suggested by Kojima, the motivation being to make the first and second optical elements of a material having preferable humidity resistance characteristics.

Dolgoft discloses abrading a lens during manufacture to promote better adherence (Col. 4, lines 1-3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the opposite side surface opposing to the first surface of the first optical element and the entry surface opposing to the exit surface of the second optical element of Hang by abrasion as suggested by Dolgoft, the motivation being to improve adherence.

#### ***Allowable Subject Matter***

5. No comment will be made regarding the allowability of claims 5 and 6 over the prior art of record due to the 35 U.S.C. 112 first paragraph rejections resulting from the speculation required to interpret these claims in light of the disclosure.

#### ***Response to Arguments***

6. Applicant's arguments filed August 9, 2004 with respect to the rejections of claims 5 and 6 under 35 U.S.C. 112, first paragraph, have been fully considered but they are not persuasive.

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Claims 5 and 6 are dependent on claim 1 and therefore include all of the limitations thereof including that "the opposite side surface opposing the first surface of the first optical element and the entry surface opposing the exit surface of the second optical element are both flat and directly contacted to each other." As a result, claims 5 and 6 read only on the elected species of Fig. 2 and not on the non-elected species of Fig. 4, which shows the opposite side surface opposing the first surface of the first optical element not in direct contact with the entry surface opposing the exit surface of the second optical element due to the interposed intermediate (Fig. 4, element 45). The volume of the second optical element of the elected species of Fig. 2 is not disclosed and claims 5 and 6 fail to comply with the enablement requirement as noted above.

7. Applicant's arguments with respect to the rejection of claims 1 and 2 as being anticipated under 35 U.S.C. 102(e) by Ori have been considered but they are not persuasive. Applicant has not specified the extent to which the surfaces directly in contact to each other are flat. The surfaces directly in contact to each other are flat at the point of contact as noted above.

8. Applicant's arguments with respect to the prior art rejections not responded to above been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after



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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

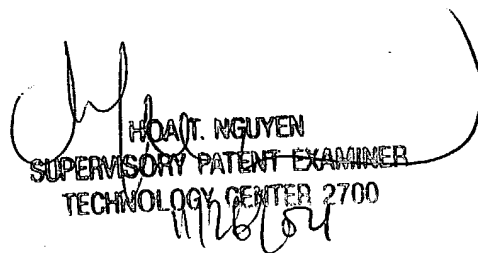
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V Battaglia whose telephone number is (703) 305-4534. The examiner can normally be reached on 5-4/9 Plan with 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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